Neurochemical Research is devoted to the rapid publication of studies which use neurochemical methodology in research of the nervous system. The journal serves as a bridge between neurochemistry and all other fields of relevance in an effort to expand our understanding of the functions of the nervous system.

EDITOR-IN-CHIEF
Abel Lajtha, Center for Neurochemistry, Ward's Island, New York

ASSOCIATE EDITORS
Norman Bass, Medical College of Georgia, Augusta, Georgia
George Hashim, St. Luke's Hospital Center, New York, New York

EDITORS

Brian G. Ansell, University of Birmingham Medical School, Birmingham, United Kingdom
Lawrence Austin, Monash University, Clayton Victoria, Australia
Leontino Battistin, Universita di Padova, Padova, Italy
Nicole A. Baumann, Hopital de la Salpètrière, Paris, France
Nicolas G. Bazan, LSU Medical Center, New Orleans, Louisiana
John Blass, Cornell University, New York, New York
Alan A. Boulton, University of Saskatchewan, Saskatoon, Canada
Miro Brzin, Institute of Pathophysiology, Ljubljana, Yugoslavia
Arselio Carvalho, University of Coimbra, Coimbra, Portugal
Jean de Vellis, University of California, Los Angeles, California
Boris D. Drujan, Instituto Venezolano de Investigaciones Científicas, Caracas, Venezuela
Yigal H. Ehrlich, University of Vermont, Burlington, Vermont
Armen Galoyan, Institute of Biochemistry, Armenian Academy of Science, Yerevan, USSR
Shimon Gatt, Hebrew University-Hadassah Medical School, Jerusalem, Israel
Ezio Giacobini, Southern Illinois University, Springfield, Illinois
David D. Gilboe, University of Wisconsin, Madison, Wisconsin
Anna Maria Giuffrida, University of Catania, Catania, Italy
Santiago Grisolia, Instituto de Investigaciones Citológicas, Valencia, Spain
Anders Hamberger, University of Göteborg, Göteborg, Sweden
Michel Hamon, INSERM Unit 288, Paris, France
Graham A. R. Johnston, University of Sydney, Sydney, Australia
Steven E. Kornguth, University of Wisconsin, Madison, Wisconsin
Kinya Kuriyama, Kyoto Prefectural University of Medicine, Kyoto, Japan
Elling Kvamme, Oslo University, Oslo, Norway
John D. Lane, Texas College of Osteopathic Medicine, Fort Worth, Texas
Gerard M. Lehrer, Mt. Sinai School of Medicine, New York, New York
Giulio Levi, Istituto Superiore di Sanita, Rome, Italy
Volker Neuhoff, Max-Planck-Institut fur Experimentelle Medizin, Göttingen, West Germany
José R. Perez-Polo, University of Texas, Galveston, Texas
Maurizio Raiteri, University of Genoa, Genoa, Italy
Robert Rush, Flinders University, Bedford Park, South Australia
Nikolaus Seiler, Centre de Recherche Merrell, Strasbourg, France
Bo K. Seisjö, University of Lund, Lund, Sweden
Marion E. Smith, Veterans Hospital, Palo Alto, California
Kunihiko Suzuki, University of North Carolina School of Medicine, Chapel Hill, North Carolina
Ricardo Tapia, Universidad Nacional Autonoma de Mexico, Mexico
Stanislav Tucek, Czechoslovak Academy of Sciences, Praha, Czechoslovakia
N. M. van Gelder, University of Montreal, Montreal, Quebec
Guy Vincendon, Centre de Neurochimie du CNRS, Strasbourg, France
Sylvester Vizi, Institute of Experimental Medicine, Hungarian Academy, Budapest, Hungary
Claude Wasterlain, UCLA School of Medicine, Los Angeles, California
Claire Zomzely-Neurath, Office of Naval Research, London, England

---

Neurochemical Research is published monthly by Plenum Publishing Corporation, 233 Spring Street, New York, N.Y. 10013. Subscription orders should be addressed to the publisher. *Neurochemical Research* is abstracted or indexed in Beck Medical Information, Biological Abstracts, Chemical Abstracts, Current Contents, Excerpta Medica, Index Medicus, Referativnyi Zhurnal, and Science Citation Index. © 1986 Plenum Publishing Corporation. *Neurochemical Research* participates in the Copyright Clearance Center (CCC) Transactional Reporting Service. The appearance of a code line at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use. However, this consent is given on the condition that the copier pay the flat fee of $5.00 per copy per article (no additional per-page fees) directly to the Copyright Clearance Center, Inc., 27 Congress Street, Salem, Massachusetts 01970, for all copying not explicitly permitted by Sections 107 or 108 of the U.S. Copyright Law. The CCC is a nonprofit clearinghouse for the payment of photocopying fees by libraries and other users registered with the CCC. Therefore, this consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, nor to the reprinting of figures, tables, and text excerpts. 0364-3190/86 $5.00

Subscription rates:
Volume 11, 1986 (12 issues) $320.00 (outside U.S., $358.00).
Volume 12, 1986 (12 issues) $360.00 (outside U.S., $402.00).

Second-class postage paid at New York, N.Y., and at additional mailing offices. Postmaster: Send address changes to *Neurochemical Research,* Plenum Publishing Corporation, 233 Spring Street, New York, N.Y. 10013.

Printed in the USA.

Neurochemical Research is published monthly by Plenum Publishing Corporation, 233 Spring Street, New York, N.Y. 10013. Subscription orders should be addressed to the publisher. *Neurochemical Research* is abstracted or indexed in Beck Medical Information, Biological Abstracts, Chemical Abstracts, Current Contents, Excerpta Medica, Index Medicus, Referativnyi Zhurnal, and Science Citation Index. © 1986 Plenum Publishing Corporation. *Neurochemical Research* participates in the Copyright Clearance Center (CCC) Transactional Reporting Service. The appearance of a code line at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use. However, this consent is given on the condition that the copier pay the flat fee of $5.00 per copy per article (no additional per-page fees) directly to the Copyright Clearance Center, Inc., 27 Congress Street, Salem, Massachusetts 01970, for all copying not explicitly permitted by Sections 107 or 108 of the U.S. Copyright Law. The CCC is a nonprofit clearinghouse for the payment of photocopying fees by libraries and other users registered with the CCC. Therefore, this consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale, nor to the reprinting of figures, tables, and text excerpts. 0364-3190/86 $5.00

Neurochemical Research

Volume 11, Number 1 January 1986

CONTENTS

ORIGINAL ARTICLES

A Comparison of Methods for Removal of Endogenous GABA From Brain Membranes Prepared for Binding Assays 1
T. E. Fisher, J. M. Tuchek, and D. D. Johnson

Alpha-1 and Alpha-2 Adrenoceptor Binding in Cerebral Cortex: Role of Disulfide and Sulfhydryl Groups 9
Tomas A. Reader, Richard Brière, and Louise Grondin

Uptake of Ethanolamine in Neuronal and Glial Cell Cultures 29
A. C. Massarelli, F. Dainous, D. Hoffmann, S. Mykita, L. Freysz, H. Dreyfus, and R. Massarelli

Effects of Emotional Stress on El-Mouse Convulsions, and Their Biochemical Background 37
A. Mori, M. Hiramatsu, H. Kabuto, and B. Marescau

Pyridoxal-5′-Phosphate Derivatives of Substance P: Preparation, Spasmogenic Activity, and Degradation by Human Plasma 47
Tatos Akopyan, Anna Arzumanyan Hasmik Aghajanyan, Ara Arutunyan, and Anahit Khanazadyan

GABA Receptor Binding Site "Induction" in Rabbit Retina After Nipecotic Acid Treatment: Changes During Postnatal Development 55
Paul Madtes Jr. and Roshan Bashir-Elahi

Rats That Consume Caffeine Show Decreased Brain Protein Synthesis 63
Vicente Felipo, Manuel Portolés, María-Dolores Miñana, and Santiago Grisolía

Release of [^{3}H]Noradrenaline by α-Adrenoceptor Agonists 71
E. Sylvester Vizi, George T. Somogyi, Laszlo G. Harsing, Jr., and Ildiko Zimanyi

Modulation of the GABA-Benzodiazepine Receptor Complex by Taurine in Rat Brain Membranes 85
Outi Malminen and Pirjo Kontro

ABSTRACTS OF COMMUNICATIONS OF THE JAPANESE NEUROCHEMICAL SOCIETY 95

Neurochemical Research

Volume 11, Number 2 February 1986

CONTENTS

ORIGINAL ARTICLES

A High-Performance Liquid Chromatography Assay of Brain Adenylate Cyclase Using [^{3}H]ATP as Substrate 161
Steven R. Childers

Proteolysis in Quaking Mouse Brain and Spinal Cord 173
Walter W. McAlhaney, Naren L. Banik, Seymour Greenfield, and Edward L. Hogan

Variations of Brain Histamine Levels in Germ-Free and Nephrectomized Rats 185
Linda R. Hegstrand and R. Hean Hine

A Simplified Radioimmunoassay of Plasma Nortriptyline in Depressed Patients Compared With High-Pressure Liquid Chromatography and Gas-Liquid Chromatography 193
Joseph F. Sayegh

High-Affinity Uptake of Taurine and β-Alanine in Primary Cultures of Rat Astrocytes 207
I. Holopainen and Pirjo Kontro

Reduced Labeling of Brain Phosphatidylinositol, Triacylglycerols, and Diacylglycerols by [1-^{14}C]Arachidonic Acid After Electroconvulsive Shock: Potentiation of the Effect by Adrenergic Drugs and Comparison with Palmitic Acid Labeling 217
Maria F. Pediconi, Elena B. Rodriguez de Turco, and Nicolas G. Bazan

UDP-Galactose: Ceramide Galactosyltransferase of Rat Central Nervous System Myelin During Development 231
Omanand Koul and Firoze B. Jungalwala

Turnover of Palmitic and Arachidonic Acids in the Phospholipids From Different Brain Areas of Adult and Aged Rats 241
C. Gatti, K. Noremberg, M. Brunetti, S. Teolato, G. Calderini, and A. Gaiti

The Subcellular Distribution of a Membrane-Bound Calmodulin-Stimulated Protein Kinase 253
J. A. P. Rostas, V. A. Brent, J. W. Heath, R. L. B. Neame, D. A. Powis, R. P. Weinberger, and P. R. Dunkley

Induction of a Heat Shock Protein in the Isolated Mammalian Retina 269
Bruce D. Clark and Ian R. Brown

Peroxisomal Oxidation of Lignoceric Acid in Rat Brain 281
Rajinder Pal Singh and Inderjit Singh

Tetrahydrobiopterin Administration to Rhesus Macaques: Its Appearance in CSF and Effect on Neurotransmitter Synthesis 291
L. Miller, T. Insel, M. Scheinin, J. Aloi, D. L. Murphy, M. Linnoila, and W. Lovenberg

A Comparison of the Dodecyl Sulfate-Induced Precipitation of the Myelin Basic Protein With Other Water-Soluble Proteins 299
John E. Moskaitis and Anthony T. Campagnoni

Neurotransmitter Uptake in Various Brain Regions of Chronically Morphinized Rats 317
L. Rönnbäck, E. Hansson, A. Cupello, M. V. Rapallino, J. Zeuchner, and L. Rosengren

Neurochemical Research

Volume 11, Number 3 **March 1986**

CONTENTS

ORIGINAL ARTICLES

Nicotinic and Muscarinic Agonists, Phorbol Esters, and Agents Which Raise Cyclic AMP Levels Phosphorylate Distinct Groups of Proteins in the Superior Cervical Ganglion 327
ANNE L. CAHILL and ROBERT L. PERLMAN

On the Mechanism of Fasting-Associated Elevations in Hypothalamic Cyclo(His-Pro) Content 339
CHANDAN PRASAD, TOKUJI IRIUCHIJIMA, RUTH M. EDWARDS, JOHN F. WILBER, MASATOMO MORI, and DEBORAH J. ROGERS

The Role of Phospholipases From Inflammatory Macrophages in Demyelimination 349
JACQUELINE TROTTER and MARION EDMONDS SMITH

Appearance and Phosphorylation of the 210 kDalton Neurofilament Protein in Newborn Rat Brain, Spinal Cord, and Sciatic Nerve 363
MICHAEL J. NOETZEL, BETTY I. ROOTS, and HARISH C. AGRAWAL

Immunochemical Evidence of Phosphorylation of a New 23K Basic Protein in Rat Brain Myelin 375
HARISH C. AGRAWAL, DAYA AGRAWAL, and ROBERT P. JENKINS

Stability of Neuronal and Glial Marker Enzymes in Post-Mortem Rat Brain 383
TERRY RITCHIE, SHEILA A. SCULLY, JEAN DE VELLIS, and ERNEST P. NOBLE

Antagonism of Phencyclidine-Induced Hyperactivity by Glycine in Mice 393
EUGENE TOTH and ABEL LAJTHA

Cerebellar Metabolism of Phosphatidylcholine and Its Hydrosoluble Precursors During Bicuculline-Induced Convulsive Seizures 401
LANFRANCO CORAZZI, GIAN LUIGI PICCININ, NDOK MARKU, and GIUSEPPE ARIENTI

Enzymes of the Purine Metabolism in Rat Brain Microsomes 407
RAFAEL FRANCO, ENRIQUE I. CANELA, and JORGE BOZAL

Heterogeneous Localization of Some Purine Enzymes in Subcellular Fractions of Rat Brain and Cerebellum 423
RAFAEL FRANCO, ENRIQUE I. CANELA, and JORGE BOZAL

Atrial Muscarinic Receptors: Effect of Triton X-100 on Guanine Nucleotide and Ammonium Ion Modulation 437
JOSÉ SANTIAGO AGUILAR and EDUARDO DE ROBERTIS

Subcellular Distributions of Calcium/Calmodulin-Stimulated and Guanine Nucleotide-Regulated Adenylate Cyclase Activities in the Cerebral Cortex 453
SHIRLEY T. BISSEN and TETSUFUMI UEDA

COMMENT

A Radiometric Microassay for γ-Aminobutyric Acid (GABA) Transaminase 465
JEROME L. MADERDRUT

Neurochemical Research

Volume 11, Number 4 April 1986

CONTENTS

ORIGINAL ARTICLES

Kinetics of the 5′-Nucleotidase and the Adenosine Deaminase in Subcellular Fractions of Rat Brain 471
Josep J. Centelles, Rafael Franco, Enrique I. Canela, and Jorge Bozal

Brain and Serum Levels of Choline and Lecithin Resulting From Long-Term Administration 481
Nancy A. Muma and Peter P. Rowell

Pretreatment With 3-*O*-Methyl-D-Glucose or 2-Deoxy-D-Glucose Attenuates the Post-Mortem Rise in Rat Brain Lactate 489
Leonard P. Miller, John B. Villeneuve, and William H. Oldendorf

Somatostatin Effects on the Cyclic AMP System and Lipid Metabolism in Mouse Brain 497
R. E. Catalan, A. M. Martinez, B. G. Miguel, A. Robles, and M. D. Aragones

Fluctuations of Acetylcholinesterase in the Mouse Spinal Cord and In Vivo Sodium Effect During the Development of Morphine Tolerance, Dependence, and Withdrawal 505
K. P. Mohanakumar and P. P. Sood

Pipecolic Acid Receptors in Rat Cerebral Cortex 521
Ambrose K. Charles

Absence of Correlations Between Glutamine-Synthetase Activity and Dysmyelination-Associated Modifications of Astroglia in the Brain of Murine Mutants 527
C. Jacque, B. Rolland, M. Caldani, Ch. Fages, and M. Tardy

Taurine and Other Free Amino Acids in the Retina, Vitreous, Lens, Iris-Ciliary Body, and Cornea of the Rat Eye 535
A. A. Heinämäki, A. S. H. Muhonen, and R. S. Piha

Calcium/Calmodulin-Dependent Inhibition of Microtubule Assembly by Brain Synaptic Junction 543
Tatsuo Suzuki, Toshihiro Fujii, and Ryo Tanaka

Metabolism of Cerebrosides and Sulfatides in the Nervous System of *Xenopus* Tadpole during Metamorphosis 557
Nobuyuki Okamura and Yasuo Kishimoto

Activities of Thiamine-Dependent Enzymes in Two Experimental Models of Thiamine-Deficiency Encephalopathy: 2. α-Ketoglutarate Dehydrogenase 567
Roger F. Butterworth, Jean-François Giguére, and Anne-Marie Besnard

Changes in Glycoprotein Carbohydrate Content in the Aging Human Brain 579
Eric G. Brunngraber and Joseph C. Webster

Induction of Lysosomal Glycosidases by Dibutyryl cAMP in Neuroblastoma Cells 589
Itzhak Fischer, Thomas S. Shea, and Victor S. Sapirstein

GABA-Agonists Induce the Formation of Low-Affinity GABA-Receptors on Cultured Cerebellar Granule Cells Via Preexisting High Affinity GABA Receptors 599
Bo Belhage, Eddi Meier, and Arne Schousboe

Neurochemical Research

Volume 11, Number 5 **May 1986**

CONTENTS

ORIGINAL ARTICLES

Porphyrin Synthesis in Primary Nervous Tissue Cultures From 10^{-3} M Delta-Aminolaevulinic Acid in the Presence of Melatonin and Neuropeptides 607
Irene Durkó and Anna Juhász

Occurrence of a Nucleoprotein Bound RNase in Rat Brain and Liver 617
R. Lambert and M. R. V. Murthy

Genotypic Differences in Age and Chronic Alcohol Exposure Effects on Somatostatin Levels in Hippocampus and Striatum in Mice 625
G. Fuhrmann, M. T. Strosser, F. Besnard, E. Kempf, J. Kempf, and A. Ebel

Effects of Pentylenetetrazol on GABA-A/Benzodiazepine/Picrotoxinin Receptor Complexes in Rat Brain Regions 637
Masatoshi Ito, Ted H. Chiu, and Howard C. Rosenberg

Amino Acid Incorporation in Relation to Molecular Weight of Proteins in Young and Adult Brain 647
F. M. Shahbazian, Myron Jacobs, and Abel Lajtha

On the Composition and Characteristics of Microvessels Isolated From the Rabbit and Bovine Brain 661
Göran Algers, Britt Karlsson, and Åke Sellström

Effect of Chronic Valproate Treatment on Folate-Dependent Methyl Biosynthesis in the Rat 671
G. F. Carl

The Effect of Raphe Nuclei Lesions on Striatal Tyramine Concentration and Dopamine Turnover in the Rat 687
A. V. Juorio and A. J. Greenshaw

Asymmetric Diffusion Into the Postsynaptic Neurone: An Extremely Efficient Mechanism for Removing Excess GABA From Synaptic Clefts on the Deiters' Neurone Plasma Membrane 695
H. Hyden, A. Cupello, and A. Palm

Morphometric and Autoradiographic Analysis of Crude Synaptosomal Preparations From Rat Cerebral Cortex 707
T. A. Collings, H. L. Braid, W. B. Greene, and D. D. Wheeler

Clonidine Reverses Baclofen-Induced Increases in Noradrenaline Turnover in Rat Brain 723
J. Sawynok and A. Reid

The Subcellular Localization of Glutamate Dehydrogenase (GDH): Is GDH a Marker for Mitochondria in Brain? 733
James C. K. Lai, Kwan-Fu Rex Sheu, Young Tai Kim, Donald D. Clarke, and John P. Blass

Pertussis Vaccine Reduces Agonist Binding to the Rat Heart Muscarinic Receptor and Its Guanine Nucleotide Modulation 745
Jose S. Aguilar, Maria I. Fonseca, and Eduardo De Robertis

COMMENT

An Improved Method for the Fluorometric Determination of Tissue Catecholamines 753
P. M. Elworthy

Neurochemical Research

Volume 11, Number 6 June 1986

CONTENTS

OVERVIEWS

Primary Astroglial Cultures: A Biochemical and Functional Evaluation 759
ELISABETH HANSSON

Neuroendocrine Heart and Hypothalamus 769
ARMEN GALOYAN

ORIGINAL ARTICLES

Nuclear and Mitochondrial DNA Synthesis and Energy Metabolism in Primary Rat Glial Cell Cultures 789
R. AVOLA, I. SERRA, D. CURTI, B. LOMBARDO, M. RENIS, D. F. CONDORELLI, and A. M. GIUFFRIDA

Chronic Ethanol Inhibits Rat Hippocampal "Stimulus-Secretion" Coupling Mechanism for 5-Hydroxytryptamine In Vitro 801
P. H. WU, C. A. NARANJO, and T. FAN

Growth and Lipid Composition of Rat Brain Glial Cells Cultured in Lipoprotein Deficient Serum 813
SHANTILAL N. SHAH and RONALD C. JOHNSON

Homocarnosinosis: Influence of Dietary Restriction of Histidine 825
HILDE A. LUNDE, LEIV R. GJESSING, and OTTAR SJAASTAD

Interaction of Dimeric and Monomeric Enkephalins With NG108–15 Hybrid Cells: A Kinetic Analysis 839
S. A. KRUMINS, R. A. LUTZ, T. COSTA, and D. RODBARD

Isolation and Characterization of Cathepsin B From Bovine Brain 851
JOHN D. BRADLEY, and JOHN N. WHITAKER

Influence of Blood Sera From Dogs Subjected to Ischemia and Recirculation on Incorporation of ^{14}C-Amino Acids In Vitro 869
M. CHAVKO, J. BURDA, and J. MARŠALA

Elevated Levels of a Glycoprotein Antigen (P-80) in Gray and White Matter of Brain From Victims of Multiple Sclerosis 877
TONY F. CRUZ, ELIZABETH J. QUACKENBUSH, MICHELLE LETARTE, and MARIO A. MOSCARELLO

Differentiation of Pre- and Post-Synaptic High Affinity Serotonin Receptor Binding Sites Using Physico-Chemical Parameters and Modifying Agents 891
M. D. HALL, H. GOZLAN, M. B. EMERIT, S. EL MESTIKAWY, L. PICHAT, and M. HAMON

Protein Metabolism and Electrophoretic Profiles in Astroglial Primary Cultures From Different Regions of Newborn Rat Brain 913
E. HANSSON, C. WIKKELSØ, C. BLOMSTRAND, and L. RÖNNBÄCK

Neurochemical Research

Volume 11, Number 7 **July 1986**

CONTENTS

FOREWORD

Special Issue Dedicated to Eduardo De Robertis 927
G. Rodríguez de Lores Arnaiz

ORIGINAL ARTICLES

Partial Characterization of an Endogenous Factor Which Modulates the Effect of Catecholamines on Synaptosomal Na^+, K^+-ATPase 933
G. Rodríguez de Lores Arnaiz and M. Antonelli de Gómez de Lima

Modulation of the Serotonin S_2-Receptor in Brain After Chronic Lithium 949
Isabel J. Wajda, Miriam Banay-Schwartz, Isaac Manigault, and Abel Lajtha

Membrane-Bound Choline Acetyltransferase From Human Brain: Purification and Properties 959
J. H. Peng, P. L. McGeer, and E. G. McGeer

Light and Dark Adaptation Influences GABA Receptor Sites in the Chick Retina 973
Sara Fiszer de Plazas, José Alfie, and Nélida N. González

Ultrastructure of Reconstituted Membranes Containing the Muscarinic Receptor 983
Amanda Pellegrino de Iraldi, José Santiago Aguilar, and Enrique L. M. Ochoa

A New Case for a Presynaptic Role of Dendrites: An Immunocytochemical Study of the N. Raphé Dorsalis 997
Jorge Pecci Saavedra, Alicia Brusco, Susana Peressini, and Daniel Oliva

Subcellular Fractionation and Distribution of Cholinergic Binding Sites in Fetal Human Brain 1011
Jean Whyte, Roger Harrison, George G. Lunt, and Susan Wonnacott

Effects of *p*-Chlorophenylalanine on Cortical Monoamines and on the Activity of Noradrenergic Neurons 1025
Tomás, A. Reader, Richard Brière, Louise Grondin, and André Ferron

Relation of Brain Regional Physostigmine Concentration to Cholinesterase Activity and Acetylcholine and Choline Levels in Rat 1037
Marta Hallak and Ezio Giacobini

Acceptors for Cyclic AMP-Dependent and Calcium Ion-Dependent Protein Kinases in Rat Brain Cytosol Fractions: A Comparison of Occluded (Synaptosomal) Cytosol With Non-Occluded Cytosol 1049
Richard Rodnight, Christopher Perrett, and Ayse Dosemeci

Adrenergic and Cholinergic Stimulation of Arachidonate and Phosphatidate Metabolism in Cultured Astroglial Cells 1061
J. J. DeGeorge, P. Morell, K. D. McCarthy, and E. G. Lapetina

The Distribution of [^{3}H]Kainate Binding Sites in Primate Hippocampus is Similar to the Distribution of Both Ca^{2+}-Sensitive and Ca^{2+}-Insensitive [^{3}H]Kainate Binding Sites in Rat Hippocampus 1073
Daniel T. Monaghan, Long Nguyen, and Carl W. Cotman

Optic Nerve Integrity is Required for Light to Affect Retina Ganglion Cell Gangliosides 1083
Beatriz L. Caputto and R. Caputto

Hemicholinium Mustard Derivatives: Preliminary Assessment of Cholinergic Neurotoxicity 1091
Philip C. Tagari, Dusica Maysinger, and A. Claudio Cuello

Neurochemical Research

Volume 11, Number 8 August 1986

CONTENTS

ORIGINAL ARTICLES

Ca-Controlled, Reversible Structural Transition in Myelin 1103
A. E. Blaurock, J. L. Yale, and B. I. Roots

Interindividual Heterogeneity of Molecular Weight of Human Brain Neutral Sphingomyelinase Determined by Radiation Inactivation Method 1131
Thierry Levade, Robert Salvayre, Michel Potier, and Louis Douste-Blazy

Genetic Determination of Striatal Tyrosine Hydroxylase Activity in Mice 1139
Csaba Vadász, Istvan Sziráki, Leelavati R. Murthy, and Abel Lajtha

A Comparison of the Glycoproteins and the Proteins From Multiple Sclerosis and Normal Brain Tissue 1151
Marie T. Filbin and Shirley E. Poduslo

Choline and Ethanolamine Phosphotransferase Activities in Glomerular Particles Isolated From Bovine Cerebellar Cortex 1167
Robert V. Dorman, Scott B. Bischoff, and David M. Terrian

Comparative Analysis of the Membrane Proteins and Their Specificities in Neurons, Protoplasmic Astrocytes, and Oligodendrocytes From Rat Brain 1181
Mira Sil, Diptendu Chatterjee, and Pranab Kumar Sarkar

Synthesis of Sulfated Glycoproteins by Glial Precursor Cells 1193
Narayan R. Bhat and Eric G. Brunngraber

Brain Neuronal Chromatin Responses in Acute Soman Intoxicated Rats 1203
L. J. Martin, J. A. Doebler, T. J. Wall, T.-M. Shih, and A. Anthony

Pattern of Labeling of Rabbit Cerebral Cortex Soluble Proteins 24 Hours After a Single Electroconvulsive Shock 1217
A. Cupello, F. Ferrillo, M. V. Rapallino, and G. Rosadini

Interaction of Gephyrotoxin and Indolizidine Alkaloids With the Nicotinic Acetylcholine Receptor—Ion Channel Complex of Torpedo Electroplax 1227
Robert S. Aronstam, John W. Daly, Thomas F. Spande, Tanjore K. Narayanan, and Edson X. Albuquerque

Neurochemical Research

Volume 11, Number 9 **September 1986**

CONTENTS

ORIGINAL ARTICLES

Transferrin Binding by Mammalian Cortical Cells 1241
KENNETH F. SWAIMAN and VALYNDA L. MACHEN

Differential Response of Chick Liver and Brain Membranes to Short Ethanol Treatment 1249
C. MARCO, F. CEACERO, D. GONZALEZ-PACANOWSKA, E. GARCIA-PEREGRIN, and J. L. SEGOVIA

Myelin Lipids: A Phylogenetic Study 1261
PHILIPPE BURGISSER, JEAN-MARIE MATTHIEU, GUNNAR JESERICH, and THOMAS V. WAEHNELDT

Effects of Cannabinoids on the Activities of Mouse Brain Lipases 1273
SHEILA A. HUNTER, SUMNER BURSTEIN, and LORI RENZULLI

Preparation of a Cell-Free Extract From Rat Brain Which Can Initiate Protein Synthesis In Vitro 1289
JAMES W. COSGROVE and STANLEY I. RAPOPORT

Fatty Acid Composition of Myelin Lipids From Developing Rat Forebrain and Spinal Cord: Influence of Experimental Hyperphenylalaninaemia 1303
GERALD HUETHER, MARTIN KLAPPROTH, and VOLKER NEUHOFF

Conversion of 4-Aminobutyraldehyde to γ-Aminobutyric Acid in Striatum Treated With Semicarbazide and Kainic Acid 1313
SHINGO MATSUSHIMA, SEIJI HORI, and MAKOTO MATSUDA

Glycolipid Modulation of Membrane Adhesion 1321
GREGORY J. BREWER and P. D. THOMAS

Purification and Characterization of the D2 Cell Adhesion Protein: Analysis of the Postnatally Regulated Polymorphic Forms and Their Cellular Distribution 1333
MARIAN C. SHEEHAN, CLAIRE I. HALPIN, CIARAN M. REGAN, NIAMH M. MORAN, and CORMAC G. KILTY

Total and Poly(A) RNA Yields During An Aluminum Encephalopathy in Rabbit Brains 1347
M. F. A. VANBERKUM, Y. L. WONG, P. N. LEWIS, and D. R. CRAPPER MCLACHLAN

Inactivation of Depolarization-Induced Calcium Uptake in Rat Brain Synaptosomes 1361
WAYNE HOSS and BORIS LABKOVSKY

COMMENT

Polysomes During Early Postnatal Development of Brain in the Rat 1373
DIDIER GAUTHIER and M. R. VEN MURTHY

The Effect of Phenytoin on Glutamate and GABA Transport 1379
P. T.-H. WONG and W. L. TEO

Neurochemical Research

Volume 11, Number 10 October 1986

CONTENTS

ORIGINAL ARTICLES

Effects of Pre-Weaning Undernutrition and Post-Weaning Rehabilitation on Polyphosphoinositide Pools in Rat Brain Regions 1383
Uma S. Ananth, C. V. Ramakrishnan, and George Hauser

Allosteric Effect of Gallamine on Muscarinic Cholinergic Receptor Binding: Influence of Guanine Nucleotides and Conformational State 1397
Tanjore K. Narayanan and Robert S. Aronstam

Degradation of Myelin Basic Protein in Myelin by Protease in Cerebrospinal Fluid and Effects of Protease Inhibitors 1407
Takashi Inuzuka, Shuzo Sato, Hiroko Baba, and Tadashi Miyatake

Vitamin E Concentrations in Different Regions of the Spinal Cord and Sciatic Nerve of the Rat 1419
G. T. Vatassery, C. K. Angerhofer, R. C. Robertson, and M. I. Sabri

Some Properties of Adenosine 3′, 5′-Cyclic Monophosphate Phosphodiesterase in the Superior Cervical Ganglion of the Guinea Pig 1425
Antonio Capuzzo, Carla Biondi, Pier Giorgio Borasio, Maria Enrica Ferretti, and Elena Fabbri

Isolation of Peripheral Nerve Collagen 1439
Katsuyuki Fujii, Michiko Tsuji, and Kagehisa Murotia

Phospholipid Requirement of Ca^{2+}-Stimulated, Mg^{2+}-Dependent ATP Hydrolysis in Rat Brain Synaptic Membranes 1447
C. R. Gandhi and D. H. Ross

Inactivation of Kallikrein and Kininases and Stabilization of Whole Rat Brain Kinin Levels Following Focused Microwave Irradiation 1463
Karey Elrod, Hiroshi Okamoto, Lowell M. Greenbaum, and Jerry J. Buccafusco

Postmortem Changes in the Enzymes of GABA and Glutamate Metabolism in the Cerebellum and Forebrain of Newborn and Adult Rats 1473
H. K. Bhargava and Shaila Telang

COMMENT

Preincubation of Homogenates From Rat Brain Thalamus and Striatum Affects the Rate of [^{3}H]GABA Uptake 1479
M. V. Rapallino and A. Cupello

Neurochemical Research

Volume 11, Number 11 **November 1986**

CONTENTS

ORIGINAL ARTICLES

Effect of L-Homocysteine and Derivatives on the High-Affinity Uptake of Taurine and GABA Into Synaptosomes and Cultured Neurons and Astrocytes 1487
Ian C. Allen, Arne Schousboe, and Roger Griffiths

Stereoselective Uptake of the GABA-Transaminase Inhibitors Gamma-Vinyl Gamma-Acetylenic GABA Into Neurons and Astrocytes 1497
Arne Schousboe, Orla M. Larsson, and Nikolaus Seiler

Similarities of Adenosine Uptake Systems in Astrocytes and Neurons in Primary Cultures 1507
Alexander S. Bender and Leif Hertz

Trace Amines (Ethylamine, Octopamine, and Tryptamine) Stimulate Inositol Phospholipid Hydrolysis in Rat Cerebral Cortex Slices 1525
N. N. Osborne, N. Cutcliffe, and A. Peard

Functional and Biochemical Characteristics of a Putative Quisqualate-Type Receptor in Rat Striatum: Effect of Brain Lesions 1533
Maria Isolde Rudolph and Gonzalo Bustos

Effects of Different Secretagogues and Intracellular Messengers on the Muscarinic Modulation of [^{3}H]Acetylcholine Release 1547
E. St. Onge, D. A. Otero, D. F. Bottiglieri, and E. M. Meyer

Calcium Ions in the Presence of Exogenous Phosphatidylserine Interfere With GABA Diffusion Through the Deiters' Neuron Membrane 1557
Holger Hydén and Aroldo Cupello

Azidomorphine is an Agonist of High-Affinity Opioid Receptor Binding Sites 1565
Katalin Horváth and Mária Wollemann

Cholesterol Ester Hydrolase(s) in Mammalian Brain: Is There a Myelin-Specific Cholesterol Ester Hydrolase? 1571
Ronald C. Johnson and Shantilal N. Shah

Ca^{2+}-Dependent Phosphorylation by Endogenous Kinases of Mr 95K and 50K-55K Proteins in PC12 Pheochromocytoma Cells 1583
Kuniko Okumura-Noji, Taiji Kato, and Ryo Tanaka

A Fraction Enriched in Dendro-dendritic Synaptosomes Isolated from Rat Olfactory Bulb: Morphology and Transmitter Release 1597
Margarita D. Chiflikian, M. Kálmán, A. A. Galoyan, and F. Hajós

Histrionicotoxins: Effects on Binding of Radioligands for Sodium, Potassium, and Calcium Channels in Brain Membranes 1609
T. Lovenberg and J. W. Daly

COMMENT

Compartmentation in the Blood-Brain Barrier: A Correction 1623
Stanley Samuels and Stephen A. Schwartz

Neurochemical Research

Volume 11, Number 12 December 1986

CONTENTS

AN OVERVIEW

Release Studies Related to the Neurotransmitter Role of Glutamate in the Cerebellum: An Overview 1627
GIULIO LEVI and VITTORIO GALLO

ORIGINAL ARTICLES

Rate of In Vivo Verapamil Exchange Within the Hypothalamus of the Cat as Examined by Push-Pull Perfusion 1643
AMIR H. REZVANI, K. T. MCMANUS, and R. D. MYERS

Ornithine Decarboxylase Activity Associated With a Particulate Fraction of Brain 1653
S. C. BONDY

The Depletion of Tryptophan and Serotonin in the Brain of Developing Hyperphenylalaninemic Rats is Abolished by the Additional Administration of Lysine 1663
G. HUETHER

Anticonvulsant Properties of Spirohydantoins Derived From Optical Isomers of Camphor 1669
NITHIANANDA CHATTERJIE and GEORGE J. ALEXANDER

D-Pipecolic Acid Inhibits Ethanol Tolerance in Mice 1677
GYULA SZABÓ, GÁBOR L. KOVÁCS, LAJOS BALÁSPIRI, and GYULA TELEGDY

Protein Organization of Rat Synaptic Plasma Membranes and Synaptic Vesicles: A One- and Two-Dimensional Study 1683
MAURIZIO POPOLI and BLAKE W. MOORE

High Performance Liquid Chromatography of Integral Glycoproteins of Peripheral Nerve Myelin 1699
YAO WANG, YASUSHI SAKAMOTO, KUNIO KITAMURA, and KEIICHI UYEMURA

L-[^{3}H]Lysine Binding to Rat Retinal Membrane: I. Quantitative Determination and Characterization of the Binding Sites 1707
F. PICCOLI, P. GUARNERI, R. GUARNERI, and F. PONTE

L-[^{3}H]Lysine Binding to Rat Retinal Membrane: II. Effect of Kainic Acid, D,L-α-Aminoadipic Acid, Iodoacetic Acid, and Modification by Dark-Exposure 1719
F. PICCOLI, P. GUARNERI, R. GUARNERI, and F. PONTE

ABSTRACTS OF COMMUNICATIONS OF THE JAPANESE NEUROCHEMICAL SOCIETY 1727

ANNOUNCEMENTS 1805

SUBJECT INDEX FOR NEUROCHEMICAL RESEARCH VOLUME 11, 1986 1807

AUTHOR INDEX FOR NEUROCHEMICAL RESEARCH VOLUME 11, 1986 1815